Estimated yield losses caused by potato late blight in Finnish fungicide trials in 1992-2006

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Yield losses caused by Potato Late Blight

Background

Three earliest blight observations 1983-2005

No of days from 1st of July
Yield losses caused by Potato Late Blight

Background

The average number of applications

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Objective

• Early epidemics – more severe yield losses?
• Tuber blight?
• Do fungicide programs give more benefit?
• Efficacy of mancozeb in comparison to new contact, translaminar and metalaxyl programs
Yield losses caused by Potato Late Blight

Materials

- Data from fungicide efficacy trials 1992-2006
- Two locations (Jokioinen and Lammi)
- 44 trials with 4 replicates

Treatments:
- Untreated control
- Mancozeb
- New contact (Shirlan, Ranman, Electis)
- Translaminar: 2 x (Tattoo, Acrobat, Tanos, Sereno) + 3-5 contact
- 1-2 metalaxyl + 3-5 contact

Number of treatments from 1990 to 2010:

- Mancozeb
- Metalaxyl +
- New Contact
- Translaminar +
- Untreated
Yield losses caused by Potato Late Blight

**Results: Leaf blight**

<table>
<thead>
<tr>
<th>Year</th>
<th>Untreated</th>
<th>Fungicide program</th>
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<tbody>
<tr>
<td>1990</td>
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<td>1992</td>
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<td>2006</td>
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<td>2008</td>
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</tbody>
</table>
Yield losses caused by Potato Late Blight

Results: Leaf blight

Leaf blight %, final rating

- Mancozeb
- Metalaxyl +
- New Contact
- Translaminar +
- Untreated

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Results: Tuber blight

Yield losses caused by Potato Late Blight

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Results: Tuber blight

Tuber blight %

- **Mancozeb**
- **New Contact**

Yield losses caused by Potato Late Blight
Yield losses caused by Potato Late Blight

Results: Tuber blight

Tuber blight
Yield losses caused by Potato Late Blight

Results: healthy marketable yield

Yield increase kg

- Untreated
- Fungicide programs
- Lin. (Fungicide programs)
Yield losses caused by Potato Late Blight

Results: healthy marketable yield

Yield increase kg

-5000 0 5000 10000 15000 20000 25000 30000


Mancozeb
Metalaxyl +
New Contact
Translaminar +
Untreated

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Conclusions

- Risk of yield losses has increased due to earlier epidemics
- Fungicide programs give relative good protection
- More sprays => higher yield increases
- Fungicide programs do not always protect from tuber blight
- Untreated plots are sometimes destroyed by leaf blight within few days => less tuber blight than in treated